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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/336,207	06/18/1999	ROBERT G. MCCrackEN	8594560/9702	7367
26386	7590	07/13/2004	EXAMINER	
DAVIS, BROWN, KOEHN, SHORS & ROBERTS, P.C. THE FINANCIAL CENTER 666 WALNUT STREET SUITE 2500 DES MOINES, IA 50309-3993			HORTON, YVONNE MICHELE	
			ART UNIT	PAPER NUMBER
			3635	

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/336,207

Applicant(s)

MCCRACKEN, ROBERT G.

Examiner

Yvonne M. Horton

Art Unit

3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: see the marked attachment.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35. U.S. Code not included in this action can be found in a prior Office action.

Claims 1,4-5,8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over CH 0004141 18 in view of U.S. Patent #3,716,959 to BERNARDI. CH 000414118 discloses a beam (B) including a pair of longitudinally extending and opposing "C-shaped" flanges (2) each having a central web section (W), a pair of inwardly extending leg sections (L) and an in-turned portion (IT) (See the marked-up attachment); and a convoluted web member (1) having alternating protrusions (4) adjacent to leg sections (L), (See the marked-up attachment). The web member (1) is secured to the central web section (W) of the flanges (2), and the protrusions (4) are secured to the leg sections (L) by securing means (3) and the in-turned portions (IT) are also indirectly secured by means (3) also. CH 000414118 discloses the basic claimed beam except for the use of end plates. The use of brackets and end plates to provide for the capability of interconnecting beam members is old and very well known in the art. BERNARDI teaches that it is known in the art to provide a beam structure (10) with end plates (36) wherein the endplates (36) along with welds (39,41,43) provide a rigid, column 2, lines 50-52, "full moment " connection, column 1, lines 45-51. It would have been obvious to one having ordinary skill in the art to provide the beam member of CH 000414118 with the end plates of BERNARDI in order to enable adjacent beam structures to be secured together and to provide the beam structure with added stiffness

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adjacent the ends thereof. Without end plates, a beam is weaker at the ends and is more likely to give under force applied at the ends.

In reference to claims 4 and 5 the web member (W) and the flanges (2) of CH 000414118 are coextensive in length and are made from sheet metal, (obtained from a brief translation).

Regarding to claims 8 and 9, the web member (W) is secured to the central web section (20) of the flanges (2) by welds (3), and the protrusions (4) are also secured to the leg sections (L) and in-turned portions (1T) by welds (3).

In reference to claim 10, the flanges are formed from sheet material; a material that inherently enables the flange members to be penetrated if desired or needed.

Regarding claim 12, CH 000414118 discloses the use beam (B); however, it does not disclose the use of a pair of beams. Although CH 000414118 does not disclose the use of a pair beams, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the beam (B) CH 000414118 with an additional beam (B); wherein the beams (B) would be connected in abutting engagement at their end plate, since the mere duplication of essential working parts of an invention involves only routine skill in the art. Adding an additional beam is quite conventional in the art especially when used in extended length environments such as bridges. Of course, attaching the members at the ends provides added strength.

Claims 2,3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over CH 0004141 18 in view of U.S. Patent #3,716,959 to BERNARDI as applied to claim 1 above, and further in view of U.S. Patent #6,253,529 to De BOER. As discussed

in paragraph 2 above, CH 000414118, as modified by BERNARDI, discloses the basic claimed beam member except for the inwardly extending sections of the opposing flanges being recessed. Although it is old and very well known in the art to form a recess in a member to flushly accommodate and tightly position a second member adjacent thereto, De BOER teaches that it is known in the art to form recesses (19,34,35) in the inwardly extending legs (14,15) of member (12). Hence, it would have been obvious to one having ordinary skill in the art to provide the inwardly extending legs of the opposing flanges of CH 000414118, as modified by BERNARDI, with the recesses of De BOER in order to ensure a proper, flush and secure fit between the end plate and the adjacent and/or interfitting members.

In further reference to claim 3, the size of the recess with respect to the end plate would have been an obvious matter of design choice depending upon how securely the end plate is needed to be positioned against the opposing flanges. If not play is desired, the size of the recess is considerably close to the thickness of the end plate.

In further regards to claim 11, the flanges (2) are C-shaped and leg sections (2) include in-turned portions (IT), (See also the marked-up attachment).

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over CH 000414118 in view of U.S. Patent #3,716,959 to BERNARDI. Neither CH 000414118 or BERNARDI discloses the basic claimed beam except for the specifics of the material characteristics and specifics of the C-shaped member. Although neither CH000414118 or BERNARDI does not disclose the particulars of the material and thickness dimensions, it would have been obvious to one having ordinary skill in the art

to form the web and flanges out of a metal having "distinct" or "specific" characteristics and thicknesses in order to be used as a replacement for lumber beams which are conventional in the art for door and window framing members, but are extremely susceptible to warping when encountered by moisture; or for use in forming supports for concrete structures. The applicant is further reminded that material selection and the thickness thereof is an obvious matter of design choice that depends on the desired performance characteristics of the resulting beam member.

### ***Response to Arguments***

Applicant's arguments filed 04/07/04 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., ***a recess and a shelf are created for receiving an end plate ...for providing a full moment connection***) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Regarding the applicant's argument that BERNARDI teaches a "semi-rigid" connection, as opposed to improving the overall structural integrity of the beam as well as providing for a full moment interconnection for more than one beam; BERNARDI clearly discloses in column 1, lines 44-51 and column 2, lines 46-58 that his endplates (36,38) provides a "rigid" connection. A rigid connection transfers both shear and moment loads between connected elements. BERNARDI, column 2, lines 30-31

discloses that there is a rigid connection at the beam ends; and he also details that his connection withstands "shear", column 2, lines 52-53, and moments, column 2, lines 61-63.

In reference to McCRACKEN not teaching a "full moment connection", McCRACKEN was provided to teach the gauge and thickness of the metal web and flanges. In further response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, BERNARDI was combined with CH 000414118 to teach that it is old and very well known in the art to provide "a beam member" with end plates to withstand shear and moment forces.

In response to the applicant's argument that none of the references identify "improving the overall structural integrity and provides for a full moment connection", none of the aforesaid references explicitly detail "improving structural integrity"; however, it is inherent and commonly known in the art that the presence of an end plate "improves" the overall structural integrity of a beam. The use of an end plate is very

much similar to the use of a washer. Both are in place to provide for a stronger connection and both provide for some degree of resistance to forces imposed there upon.

In response to the applicant's argument that DeBOER does not teach the use of recesses intended or designed to accommodate an end plate, the applicant is reminded that, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. Surely, it is old and very well known in the art to form a recess in a member to form a flush accommodation and tight position to a second member adjacent thereto.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne M. Horton whose telephone number is (703) 308-1909. The examiner can normally be reached on 6:30 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl D. Friedman can be reached on (703) 308-0839. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YMH  
July 07, 2004

